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Vehicle Services

Doctoral Dissertation
by

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Abstract

This thesis contributes to our understanding of the development and diffusion of vehicle services, and to how information technology interacts with forms of organization and business models to undermine or support the development of vehicle services. The overall research question asked in the thesis is: what are the technical, business and organizational prerequisites for the development and diffusion of a rich variety of vehicle services?

The development and diffusion of vehicle services have been empirically investigated by ethnographic field studies, prototype software development and case studies as part of a collaborative practice research approach involving the Volvo Group. Based on ethnographic field studies of current vehicle repair service work, analytical patterns were identified to better understand the core foundation of vehicle services. In the prototype development, a platform was developed, which allowed exploring the technical prerequisites for the development of vehicle services. Two case studies examined, first, the development of IT support for vehicle services and, secondly, the organization of vehicle service development.

The results from all these collaborative practice research activities suggest that the vehicle industry needs to revise its conception of vehicle services as services extending product features in favor of vehicle services enriching the use of the vehicle. Thus, the thesis argues that the lack of vehicle services, rather than being just a question of technical nature, can only be remedied by a change of perspective from products to services, which in turn influences the choice of technology, forms of organization and underlying business models.

Vehicle services are here conceptualized as services interacting across the ecosystem of vehicle stakeholders to enrich the customer's use of the vehicle. Hence, to be really useful, vehicle services must roam organizational and technical boundaries and cannot be treated as properties of the vehicle. This requires vehicle manufacturers to adopt appropriate forms of technology and organization. The concept of information infrastructure is shown to be appropriate since it allows separating services from shared infrastructural resources. Such a separation also allows opening up the development of vehicle services to other service providers. Open innovation is described as a suitable form of opening up the innovation and development of vehicle services to a larger group of service providers. The thesis argues that these three prerequisites – business model, technology and organization – have to closely interact to facilitate the development and diffusion of a rich variety of vehicle services.

The general contribution of the thesis is to show how product oriented industries have to revise their proprietary mindset in favor of an open attitude to successfully engage in the development of services.

Keywords: *vehicle services, information infrastructure, open innovation, prototyping, field studies.*

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